

**WESTERN MARYLAND HEALTH SYSTEM**  
**Physician Orders**

**REMINDER: ALL MEDICATION ORDERS REQUIRE DOSE, ROUTE, FREQUENCY AND INDICATION  
 DO NOT USE ABBREVIATIONS**

<b>DOCTORS ORDERS SEPSIS PROTOCOL</b>	<b>CHECK OFF/ INITIALS</b>
1. Patients with suspected or confirmed infection <b>AND</b>	
2. Two SIRS (systemic inflammatory response syndrome) criteria: Temp greater than 100.4 (38° C) <b>or</b> less than 96 (36° C) Heart Rate greater than 90 Respiratory Rate greater than 20 <b>or</b> PCO2 less than 32 WBC greater than 12,000 <b>or</b> less than 4,000 <b>or</b> greater than 10% bands <b>AND</b> Blood Pressure less than 90 systolic, MAP (mean arterial pressure) less than 65 after 0.9% Sodium Chloride Intravenous fluid challenge 30 mL/kg over 30 minutes <b>OR</b> Lactate greater than 4	
<b>Patient Meeting Inclusion Criteria:</b>	
1. Admit to ICU.	
2. Critical Care consult.	
3. Lab studies:	
CBC with manual diff	
Renal profile	
PT, APTT, INR	
CXR	
Urinalysis and Urine C/S	
EKG	
Blood culture x 2	
Arterial Blood Gases	
Lactate	
Cultures from suspected sites of infection	
DIC profile	
Troponin 1	
4. Foley catheter and hourly urine output.	
5. Central venous catheter, central venous pressure monitoring and central venous oxygen saturation (SVO2).	
6. Consider arterial line (recommended if vasopressors started).	
7. Antibiotic administered within first hour.	
8. Accucheck glucose monitoring every 4 hours.	
<b>Resuscitation and management goals:</b> CVP (central venous pressure) 8 - 12 MAP (mean arterial pressure) greater than 65 SVO <sub>2</sub> (central venous oxygen saturation) greater than 70% Urine output greater than 0.5 mL/kg/hour	

<b>DOCTORS ORDERS SEPSIS PROTOCOL</b>	<b>CHECK OFF/ INITIALS</b>
<p>1. CVP (central venous pressure) less than 8: <b>Please check appropriate box as per critical care specialist preference.</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Administer Intravenous 500 ml <b>0.9% Sodium Chloride</b> every 30 minutes to achieve CVP (central venous pressure) 8-12.</li> <li><input type="checkbox"/> Administer Intravenous 1000 ml <b>0.9% Sodium Chloride</b> every 30 minutes to achieve CVP (central venous pressure) 8-12.</li> </ul>	
<p>2. MAP (mean arterial pressure) less than 65 or Blood Pressure Systolic less than 90: To maintain MAP (mean arterial pressure) greater than or equal to 65 / Blood Pressure Systolic greater than 90 <b>Norepinephrine</b> (Levophed®) at 0.5 - 5 mcg/kg/minute</p>	
<b>Other Recommendations (For physician consideration):</b>	
<p>1. If SVO2 (central venous oxygen saturation) less than 70%</p> <ul style="list-style-type: none"> <li>• Transfuse packed RBC to Hct at least 30.</li> </ul>	
<p>2. If SVO2 (central venous oxygen saturation) less than 70% with CVP (central venous pressure) 8-12 <b>AND</b> MAP (mean arterial pressure) greater than 65 <b>AND</b> Hct greater than 30:</p> <ul style="list-style-type: none"> <li>• Start Dobutamine (Dobutrex®) at 2.5 mcg/kg/minute and increase 2.5 mcg/kg/minute every 30 minutes until SVO2 (central venous oxygen saturation) greater than 70% to maximum dose 20 mcg/kg/minute. Reduce Dobutamine (Dobutrex®) if MAP (mean arterial pressure) less than 65.</li> </ul>	
<p>3. Consider Dobutamine (Dobutrex®) infusion with patients with Cardiomyopathy.</p>	
<p>4. Continued need for vasopressors (MAP (mean arterial pressure) less than 65 with CVP (central venous pressure) 8-12)</p> <ul style="list-style-type: none"> <li>• Vasopressin (Pitressin®) at 0.01 - 0.04 units/minute</li> </ul> <p style="text-align: center;"><b>AND</b></p> <ul style="list-style-type: none"> <li>• Hydrocortisone (Solu-Cortef®) 50 mg Intravenous every 6 hours x 7 days.</li> </ul>	
<p>5. To reduce oxygen consumption in patients in whom hemodynamic optimization not achieved, consider mechanical ventilation and sedation.</p>	
<p>6. Consider Drotrecogin-Alpha (Xigris®) (see protocol for criteria and exculsion) for patients with APACHE II greater than 25, sepsis induced multiple organ failure, sepsis induced ARDS or septic shock (refractory hypotension).</p>	
<p>7. Hgb less than 7 (in absence of significant CAD or acute hemorrhage)</p> <ul style="list-style-type: none"> <li>• Transfuse packed RBC to Hgb of 7-9 g/dL.</li> </ul>	
<p>8. Platelets less than 5,000 (regardless of bleeding) <b>OR</b> Platelets 5,000-30,000 (active bleeding or significant bleeding risk)</p> <ul style="list-style-type: none"> <li>• Transfuse 6 units platelets</li> </ul>	
<p>9. Maintain Serum Glucose less than 140</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Accuchecks every 4 hours</li> <li><input type="checkbox"/> Insulin Protocol as indicated: <input type="checkbox"/> Glycemic Management Protocol (CVICU/ICU) <input type="checkbox"/> ICU Insulin Infusion Protocol</li> </ul>	
<p>10. Consider Infectious Disease Consult</p>	
<b>Clinical Syndromes:</b>	
<p>1. SIRS</p>	
<p>2. SIRS + infection = sepsis</p>	

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| 3. Sepsis + multiorgan dysfunction = severe sepsis       |  |
| 4. Severe sepsis + refractory hypotension = septic shock |  |

**Refs:**

Rivers, et al, *Early Goal Directed Therapy in Treatment of Severe Sepsis and Septic Shock*, New England Journal of Medicine, Vol. 345, pg 1368-77 (2001)

Dellinger, et al, *The Surviving Sepsis Campaign Guideline for Management of Severe Sepsis and Septic Shock, An Evidence Based Review*, Critical Care Medicine, Vol. 35, pg 448-597 (2004).

<b>Physician/Date/Time:</b>	<b>Nurse/Date/Time:</b>	<b>Secretary/Date/Time:</b>
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**Full page of orders requires only one physician, one nurse and one clerical signature**



Original to Patient's Chart

Fax to Pharmacy